

**REMARKS**

This application has been carefully reviewed in light of the Office Action dated May 4, 2005. Claims 5, 6, 11 and 12 have been cancelled herein, without prejudice or disclaimer of subject matter thereof, and Claims 16 to 23 have been added. Claims 1 to 4, 7 to 10, and 13 to 23 remain in the application, of which Claims 1 and 13 are the independent claims, and Claims 13 to 15 have been withdrawn. Claims 1 and 7 to 10 have been amended herein.

Reconsideration and further examination are respectfully requested.

Initially, Claims 16 to 23 have been added to further claim several novel features of the present invention. Support for the substance of these new claims is found throughout the disclosure as filed, and no new material has been added.

In the Office Action, Claims 1, 2, and 5 to 12 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,477,304 ("Nishi") in view of U.S. Patent No. 6,327,065 ("Danial"); and Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) over Nishi in view of Danial, and further in view of U.S. Patent No. 6,612,192 ("Hardy"). As indicated above, Claims 5, 6, 11 and 12 have been cancelled, without prejudice or disclaimer of subject matter, and without conceding the correctness of their rejection. Withdrawal of the remaining rejections and further examination are respectfully requested.

Referring specifically to claim language, amended independent Claim 1 describes a steerable mirror assembly, including a mounting plate, at least one position sensor, and a mirror with a mounting surface and a reflective surface. The assembly further includes three C-shaped or U-shaped flexible connectors coupled between the mounting plate and peripheral portions of the mirror, the flexible connectors flexibly constraining the mirror. Additionally, the assembly includes three support members coupled between the mounting plate and the mounting surface, where the support members provide mechanical support to the mirror and simultaneously move the mirror in one translational degree of freedom along an axis perpendicular to the reflective surface of the mirror and in two rotational degrees of freedom to allow tilting around axes parallel to a plane of the reflective surface.

The applied art is not seen to teach or suggest the features of the present invention. Specifically, the applied art is not seen to disclose at least the features of three support members coupled between the mounting plate and the mounting surface, where the support members

simultaneously move the mirror in one translational degree of freedom along an axis perpendicular to the reflective surface of the mirror and in two rotational degrees of freedom to allow tilting around axes parallel to a plane of the reflective surface. Support for these features is found throughout the disclosure, including Figures 4 through 6, and paragraphs [0041], [0042], [0052], [0066], and [0068] of the specification.

Nishi is seen to describe a projection exposure apparatus, such as those used in the manufacturing of liquid crystal displays. *See* Nishi, col. 1, ll. 15 to 17. Movable mirror 33 is disposed upon adjustment stage 21, and laser interferometer 35 obtains the position and rotation angle of adjustment stage 21 using laser beams reflected off movable mirror 33. *See* Nishi, col. 8, ll. 40 to 45. Since the motion is seen to be confined within one plane, denoted the X-Y plane, Nishi is not seen to describe three support members coupled between the mounting plate and the mounting surface, where the support members simultaneously move the mirror in one translational degree of freedom along an axis perpendicular to the reflective surface of the mirror and in two rotational degrees of freedom to allow tilting around axes parallel to a plane of the reflective surface.

Danial is not seen to remedy the foregoing deficiencies of Nishi. In particular, Danial describes a fine pointing assembly for steering a light beam in an optical inter-satellite communications system. *See* Danial, Abstract; col. 2, ll. 58 to 68; and Fig. 2. Steering mirror 30 is rigidly connected to outer gimbal 40, and outer gimbal 40 is flexurally connected to inner gimbal 50. *See* Danial, col. 3, ll. 40 to 45. Steering mirror 30 and outer gimbal 40 rotate together around the axis of outer gimbal 40 and the axis of inner gimbal 50. *See* Danial, col. 3, ll. 59 to 63. As such, the assembly in Danial is merely seen to move in two rotational degrees of freedom, but does not provide for the simultaneous motion of the mirror in one translational degree of freedom along an axis perpendicular to the reflective surface of the mirror as well.

Even assuming, *arguendo*, that Nishi could be combined with Danial, the proposed combination is still not seen to disclose at least the features of three support members coupled between the mounting plate and the mounting surface, where the support members simultaneously move the mirror in one translational degree of freedom along an axis perpendicular to the reflective surface of the mirror and in two rotational degrees of freedom to allow tilting around axes parallel to a plane of the reflective surface.

Accordingly, independent Claim 1 is believed to be allowable over the applied combination of references. The other rejected claims in the application are each dependent from pending independent Claim 1 and are believed to be allowable over the applied reference for at least the same reasons. Because each dependent claim is deemed to define additional aspects of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, it is believed that the entire application is in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Orange County office by telephone at (949) 851-0633. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

  
David E. A. Jordan

Registration No. 50,325

18191 Von Karman Ave., Suite 400  
Irvine, CA 92612-7107  
Phone: 949.851.0633 DEJ:CMF  
Facsimile: 949.851.9348  
**Date: June 13, 2005**

**Please recognize our Customer No. 31824  
as our correspondence address.**